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ABSTRACT

The paper addresses the issues of testing modifications with handicapped students in Houston (Texas) Independent School District. Using descriptive data, the performance of secondary mainstreamed and nonhandicapped students on course proficiency field tests without modifications are compared. Approximately 65% of the mainstreamed students were learning disabled or speech handicapped. Comparisons of scores on criterion referenced tests (without adaptations) for 14 academic courses revealed that mainstreamed Ss performed as well or better than their nonhandicapped peers on five tests (Algebra I, geometry, world history, world geography, and U.S. history). Data further suggested that testing modifications are necessary for mainstreamed students on course proficiency tests in English and science, although testing without modifications seemed appropriate for the areas of mathematics and social studies. It is concluded that testing modifications are not the answer to the high failure rate for mainstreamed students in maximum competency programs, but that students with a low probability for success should not be mainstreamed. (CL)

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MAINSTREAMED SECONDARY STUDENTS AND COURSE PROFICIENCY TESTING WITHOUT MODIFICATIONS

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MAINSTREAMED SECONDARY STUDENTS AND COURSE PROFICIENCY TESTING WITHOUT MODIFICATIONS

The Education for All Handicapped Children Act of 1975 and Section 504 of the Rehabilitation Act of 1973 afforded handicapped students the opportunity to participate in all facets of educational programs, including assessment programs, to the fullest extent possible (Grise, 1980). When these Acts were passed, assessment programs for the handicapped primarily consisted of individual psychological testing which was employed to identify students' needs for special education services. The issues associated with this type of assessment program included ensuring that students identified as eligible to receive special education services would be categorized and placed appropriately. Since the passage of those Acts, a new assessment program has become the trend in the educational arena--minimum competency testing, the emergence and acceptance of which has created different and even more challenging issues with regard to handicapped students.

For educational systems, minimum competency testing became the response to criticisms abounding that schools were graduating students who were essentially illiterate. Students are given tests, most of which are criterion-

referenced, designed to measure minimum competence in the basic skills, primarily reading and mathematics. In many cases, passage of tests of minimum competence is tied either to graduation and/or promotion. Because such stipulations could critically affect what happened to students for the rest of their lifetimes, there became an urgent need for special educators and other proponents of special education to address the issues associated with minimum competency testing and handicapped students.

McCarthy (1980) succinctly addressed ten such issues, one of which involved the use of testing modifications for the handicapped. Despite the fact that there are little empirical data to justify the need for testing modifications with handicapped students, the majority of minimum competency testing programs have made special provisions in procedures and/or materials for handicapped students. Testing modifications could include, but might not be limited: braille, large print, and audiocassette editions; extended time limits; permission to write in test booklets; instructions in sign language; and having answer sheets recorded by proctors (Amos, 1980; McKinney, 1983; and Safer, 1980).

Although the use of testing modifications with handicapped students in minimum competency testing programs has become acceptable practice, data regarding the need for such provisions are mixed. For example, Safer (1980), who

used data from the Florida program, indicated that large percentages of handicapped students would fail the tests and, consequently, fail to attain a high school diploma because that stipulation is mandated. Thus, according to Safer (1980), testing modifications for handicapped students are necessary. More recent data reported by McKinney (1983) with regard to the North Carolina program, though, suggest that the type of handicapping condition should be the overriding factor in deciding whether to employ testing modifications with handicapped students. The McKinney (1983) data showed that the use of testing modifications with mentally handicapped students increased their probability of passing a test of minimum competence while the converse was found for hearing impaired students.

Now maximum competency testing programs have begun to appear on the educational scene. Maximum competency testing can be defined as a testing program which focuses on the measurement of student competence in on-grade-level skills. In addition to assessment in the basic skills of language arts and mathematics, students might also be assessed in other content areas appropriate for the grade level. For years, the move to maximum competency testing has been urged by educators who were concerned that the "minimum" in minimum competency testing would become the "maximum." The greatest impetus for maximum competency testing, however, has come from the recent promulgation of A Nation At Risk: The Imperative for Educational Excellence (National

Commission on Excellence in Education, 1983). In sum, this report contains pungent criticisms regarding the mediocrity of our educational systems and provides recommendations for ensuring educational excellence. Among the recommendations is the abandonment of minimum competency testing programs and the institution of those which assess maximum competency.

The advent of maximum competency testing programs, though, does not eliminate the issue of how to ensure appropriate and fair testing for handicapped students. The question regarding whether testing modifications are necessary for handicapped students still must be answered.

This paper will address the issue of testing modifications with handicapped students in the Houston (Texas) Independent School District and maximum competency testing. Using descriptive data, the performance of secondary mainstreamed and nonhandicapped students on course proficiency field tests without modifications will be compared. The results of testing without modifications are presented and support for continuing this practice is provided.

Houston High School Proficiency Testing Program

The Houston (Texas) Independent School District made its commitment to excellence in education during the latter part of the 1981-82 school year. Curriculum specialists, assisted by a corps of master teachers, began to fulfill the commitment by revising course proficiencies in every content

area at each grade level. These upgraded course/grade proficiencies were then provided each teacher in the District at the beginning of the 1982-83 school year. For the next phase, District curriculum specialists, teachers, administrators, and assessment specialists developed item specifications for 14 second semester high school courses. Those courses were: algebra I, algebra II, geometry, world history, world geography, U.S. history, U.S. government, English I, English II, English III, English IV, physical science, biology, and chemistry. Although test items for each of the 14 courses were developed by an independent testing company, item review and decisions regarding test content and format were the sole responsibility of appropriate District staff (i.e., curriculum specialists, teachers, administrators, and assessment specialists.

Criterion-referenced tests for each of the 14 second semester high school courses were available for field testing by May 1983. The tests ranged in length from 36-44 items, with 40 items as the mean test length. Variation in test length was a function of the number of objectives per course. Although some courses had more or less objectives than others, each objective for each course was measured with four test items.

Field testing for the high school proficiency testing program was conducted in May 1983. Every student enrolled in each of the 14 second semester courses for which tests had been developed were included in the field testing.

Testing time was two hours per course. The tests were administered by teachers of the courses for which tests were developed. Testing modifications were not employed during field testing. In fact, teachers were not aware that students classified as eligible for special educational services were enrolled in courses they taught in the majority of cases.

Sample

For this study, only mainstreamed students enrolled in one or more of the 14 second semester courses were included. These students comprised 22 percent of the total secondary handicapped population and only two percent of the total student population involved in field testing.

Insert Table 1 about here

Approximately 65 percent of the mainstreamed secondary population were learning disabled students (see Table 1). A greater percentage of speech handicapped students were mainstreamed and, thus, included in the field testing than secondary special education students with other handicapping conditions. The smallest percentage of mainstreamed students from the secondary handicapped population were those categorized as mentally retarded.

Scoring

Test scores on the High School Proficiency Test administered for the 14 second semester courses were converted to letter grades based on pre-established criteria

determined by District curriculum specialists, teachers, administrators, and assessment specialists. For each course, there was specific criteria from which letter grades were derived. As a result, a raw score of 75 percent correct might be equivalent to a letter grade of "B" in algebra I, but a letter grade of "C" in English I, e.g. Although the field test results presented in this study were not subject to the District's policy mandates, course proficiency tests in actual testing situations will account for 20 percent of students' grades in those courses.

Results

In an attempt to assess whether mainstreamed secondary students enrolled in 14 second semester courses performed well enough on the course proficiency field tests without modifications, their failing rate was compared to that of the nonhandicapped students who took these same tests. The comparison is presented in Table 2.

Insert Table 2 about here

Mainstreamed students performed as well or better than their nonhandicapped peers on five of the 14 course proficiency field tests. The data show that a smaller percentage of mainstreamed secondary students failed course proficiency tests in algebra I, geometry, world history, and world geography than did the nonhandicapped students. The failure rate for mainstreamed students who took the algebra I test was more than one and one-half times less

than the failure rate for nonhandicapped students enrolled in that course. One percent fewer mainstreamed students who took tests in geometry and world history failed than did the nonhandicapped students. No mainstreamed students who took the world geography test failed versus a 29 percent failure rate for nonhandicapped students. On the U.S. history test, the failure rate for mainstreamed students and their nonhandicapped peers was equivalent.

The failure rate for mainstreamed students on the seven remaining course proficiency tests was higher than that for nonhandicapped students. Failure rates for mainstreamed students ranged from four percent greater than their nonhandicapped peers on English III tests to 39 percent greater on the English II tests.

Discussion

Results of this study showed that mainstreamed students performed as well or better than their nonhandicapped peers on five course proficiency tests without modifications. Those tests were for the following courses: algebra I, geometry, world history, world geography, and U.S. history. Mainstreamed students had a higher failure rate than their nonhandicapped peers on nine course proficiency tests without testing modifications. Those tests were in the courses of algebra II, U.S. government, English I, English II, English III, English IV, physical science, biology, and chemistry.

If one merely takes into consideration the total number of course proficiency tests on which mainstreamed students performed worst than nonhandicapped students, the conclusion drawn would be that testing modifications should be employed in actual testing situations for these students. Of the 14 course proficiency tests administered, mainstreamed students performed as well or better than their nonhandicapped peers only on five. If one scrutinizes the data, however, a different conclusion must be drawn.

In general, the data indicate that mainstreamed students performed better than or equivalent to nonhandicapped students on course proficiency tests without modifications in mathematics and social studies. On two of the three tests in the content area of mathematics, the failure rate for mainstreamed students was less than that for nonhandicapped students. With regard to tests in the content area of social studies, the failure rate for mainstreamed students was less than that for their nonhandicapped peers on two of the four tests and equivalent to nonhandicapped students on one of the four tests. Thus, mainstreamed students performed as well or better than their nonhandicapped peers on three of the four tests in the content area of social studies. When course proficiency tests in the content areas of English and science are taken into account, however, the findings are not favorable. Of the four English courses and three science courses, the failure rate for mainstreamed students surpassed that of

their nonhandicapped peers. On six of the seven tests in those two content areas, their failure rate was at least 25 percent higher than the nonhandicapped.

While their performance on tests in both those content areas was inadequate, the failure rate exhibited by mainstreamed students on tests in content area of English was particularly surprising. Tests in English courses posed extreme difficulty for mainstreamed students; their failure rate on tests in that content area was in excess of 30 percent higher than the rate for nonhandicapped students, with the exception of the English III test. Nonhandicapped students on the other hand, performed better on tests in English courses than on tests for any other content area.

Given the data, it seems that testing modifications indeed are necessary for mainstreamed students on course proficiency tests in the content areas of English and science, though testing without modifications seems apropos for those involved with course proficiency tests in the content areas of mathematics and social studies. Thus, the data for English and science tests support the findings of Safer (1980) who found high failure rates on tests of minimum competence for handicapped students and recommended testing modifications. Data from this study do not support McKinney's (1983) findings that the type of handicapping condition should be the overriding factor when considering the use of testing modifications. The analysis of the performance of mainstreamed students, which can be gleaned

from tables in Appendix A, does not show that students of a particular handicapping condition performed substantially less adequate on tests in the content areas of English and science than students of other handicapping conditions.

Despite the findings from this study, this researcher contends that the use of testing modifications is not the solution to the high failure rate exhibited by mainstreamed students on course proficiency tests in the content areas of English and science. The rationale for such is that these are special education students who have, in the judgment of an appropriate multidisciplinary team, the capabilities to function in regular classroom work in English and science courses. As a consequence, these students have participated in classroom experiences, particularly quizzes and major tests, without the aid of modifications. If students are mainstreamed and allowed to remain in a regular course for its duration and participate as nonhandicapped students, it is not logical to give them special consideration for an end-of-the semester proficiency test in that course.

In the opinion of this researcher, the solution to the high failure rate for mainstreamed students who participate in maximum competency programs such as the one instituted in Houston is to ensure that persons responsible for recommending appropriate placement of these students make every reasonable effort to avoid mainstreaming them into

regular academic programs when the data indicate they have a low probability for success. Since the promulgation of A Nation at Risk: The Imperative for Educational Reform (National Commission on Excellence in Education, 1983), educational standards are or will become more rigorous. As a consequence of tougher course requirements, some students who may have been mainstreamed when standards were perhaps "watered down" may not be able to succeed with the new standards. So, it is incumbent upon persons responsible for placement decisions not only to weigh them carefully using all available data, but also to review those decisions at least twice a year (once per semester) to determine whether they still are appropriate.

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APPENDIX A

TABLE 1

NUMBER AND PERCENTAGE OF MAINSTREAMED SECONDARY STUDENTS ENROLLED IN ONE OR MORE REGULAR HIGH SCHOOL COURSES

	SECONDARY HANDICAPPED POPULATION	MAINSTREAMED HANDICAPPED POPULATION	
	N	N	%
PG	333	77	23
VH	20	10	50
OI	96	15	16
OH	112	15	13
ED	55	12	22
HI	69	7	10
SH	103	72	70
MR	405	6	1
BD	83	-	-
LD	1,422	396	28
DB	2	-	-
MH	21	-	-
AU	6	-	-
TOTAL	2,727	610	

TABLE 2

STUDENT PROFICIENCY FIELD TEST RESULTS BY SUBJECT

SUBJECT	PERCENTAGE FAILING TEST	
	MAINSTREAMED STUDENTS	NONHANDICAPPED STUDENTS
ALGEBRA I	31*	55
ALGEBRA II	50	34
GEOMETRY	34*	35
WORLD HISTORY	38*	39
WORLD GEOGRAPHY	0*	29
U. S. HISTORY	48*	48
U. S. GOVERNMENT	57	42
ENGLISH I	59	26
ENGLISH II	61	22
ENGLISH III	36	32
ENGLISH IV	64	31
PHYSICAL SCIENCE	65	39
BIOLOGY	69	35
CHEMISTRY	50	43

Table 3

Performance of Mainstreamed Secondary Students on Math Proficiency Field Tests

	Algebra I (N=91)	Algebra II (N=12)	Geometry (N=35)
A	10%	-	16%
B	15%	-	14%
C	19%	30%	24%
D	25%	10%	14%
F	31%	60%	32%

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Table 4

Analysis of Performance of Secondary Mainstreamed Students on Mathematics Course Proficiency Field Tests May 1983

Handicapping Condition	Algebra I N Students A	B	C	D	F	% Passing	Algebra II N Students A	B	C	D	F	% Passing	Geometry N Students A	B	C	D	F	% Passing
LD	2	6	10	13	15	67					1	0		2	8	1	4	73
SH	5	7	3	4	6	76	4					100			2	1	2	60
ED				1		100							1	1				100
MR				1		100												
PG		1	2	1	6	40			1	1	3	40		2	1	3	4	60
VH		1		2	1	75					2	0	1					100
OH			1	1		100											1	0
OI	1		1			100											1	0

TABLE 5

PERFORMANCE OF MAINSTREAMED SECONDARY STUDENTS ON SOCIAL STUDIES PROFICIENCY FIELD TESTS

	W. HISTORY (N=209)	W. GEOGRAPHY (N=18)	U.S. HISTORY (N=91)	U.S. GOVERNMENT (N=49)
A	5%	22%	2%	2%
B	9%	39%	8%	9%
C	25%	33%	26%	22%
D	23%	6%	16%	10%
F	38%	-	48%	57%

Table 6

Analysis of Performance of Secondary Mainstreamed Students
on Social Studies Course Proficiency Field Tests
May 1983

C O U R S E

Handicapping Condition	World History						World Geography						U.S. History						U.S. Government					
	N Students					%	N Students					%	N Students					%	N Students					%
	A	B	C	D	F	Passing	A	B	C	D	F	Passing	A	B	C	D	F	Passing	A	B	C	D	F	Passing
LD	8	11	32	36	62	58	4	3	6	1		100	1	4	10	11	21	55	1	2	4	3	12	45
SH	2	4	9	7	32	69		3				100		1	5		2	75			1		2	33
EP	1		2		3	100		1				100	1	1			1	67			1			100
MR																	1	0						
PG			5		5	50									5	2	16	30			2	2	12	25
VH		2	1	1		100									1			100		1			1	50
OH		1				100									2		1	67		1	2		1	75
OI	1		2	3	2	75									1	1	2	50			1			100
MI			1	1		100								1				100						

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TABLE 7

PERFORMANCE OF MAINSTREAMED SECONDARY STUDENTS ON ENGLISH PROFICIENCY FIELD TESTS

	ENGLISH I (N=206)	ENGLISH II (N=113)	ENGLISH III (N=66)	ENGLISH IV (N=44)
A	1%	2%	5%	5%
B	5%	1%	8%	2%
C	11%	10%	30%	11%
D	17%	26%	21%	18%
F	66%	61%	36%	64%

Table 8

Analysis of Performance of Secondary Mainstreamed Students
on English Course Proficiency Field Tests
May 1983

C O U R S E

Handicapping Condition	English I N Students					% Passing	English II N Students					% Passing	English III N Students					% Passing	English IV N Students					% Passing
	A	B	C	D	F		A	B	C	D	F		A	B	C	D	F		A	B	C	D	F	
LD	1	2	10	25	102	27	1		7	18	54	32		2	8	6	19	46			1	1	15	12
SH	1	3	10	6	19	51	1		3	3	4	64			3	2	1	83			1	1	3	57
ED		1		1	1	67				1	1	50	1	2				100	1		1			100
MR											1	0												
PG		1	2		6	33		1		8	7	56	1	3	5	3	4	75			1	4	7	42
VH		2		1	1	75					1	0	1		1			100					1	0
OH		1	1		2	50			1		1	50			1	2		100	1			1	1	67
OI		1		1	4	33										1		100			1	1		50
HI					1	0																		

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TABLE 9

PERFORMANCE OF MAINSTREAMED SECONDARY STUDENTS ON SCIENCE PROFICIENCY FIELD TESTS

	PHYSICAL SCIENCE (N=228)	BIOLOGY (N=122)	CHEMISTRY (N=2)
A	3%	-	50%
B	2%	4%	-
C	10%	11%	-
D	20%	16%	-
F	65%	69%	50%

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Table 10

Analysis of Performance of Secondary Mainstreamed Students
on Science Course Proficiency Field Tests
May 1983

Handicapping Condition	Physical Science N Students					% Passing	Biology N Students					% Passing	Chemistry N Students					% Passing
	A	B	C	D	F		A	B	C	D	F		A	B	C	D	F	
LD	2	1	11	30	115	28		3	8	11	49	31						
SH	3	3	11	4	21	50		2	3	2	4	64					1	0
ED					3	0					1	0						
MR					2	0				2	2	50						
PG				4	5	44			1	4	20	20						
VH	1			2	1	75					1	0				1		100
OH				3		100			1		1	50						
OI	1			3	1	80			1		1	50						
HI					1	0					5	0						